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WO 99/67938 A1 WO 97/42852 A1 AU 001240297 A  
US 5938137 A US 5864925 A US 4714184 A

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INT CL<sup>7</sup> A44B 15/00, A45C 13/18 13/20, A45F 5/00  
Online: WPI, EPODOC, JAPIO

(54) Abstract Title

A safety device for a mobile telephone.

(57) A safety device 1 for a mobile telephone 2 comprises a hollow housing 4, first securing means 12, a primary ligature 10 stored in the hollow housing, one end of the ligature being connected to a recoil mechanism located in the housing whilst the other is provided with second securing means 20. There may be means 16 located so as to allow relative movement between the housing and first securing means. The ligature is preferably a chain. Both first and second securing means preferably comprise 'eye-clips'. There may also be another clip means 35 provided, comprising at least one elongate engagement tongue adapted to accommodate the belt 15 or waistband of the user. A mobile phone is secured to the safety device by means such as a hook on the telephone or telephone case. In use, removing the telephone from a user's pocket or waistband causes the ligature to resiliently extend from the housing against the action of the recoil mechanism as the telephone is lifted to the user's ear, the ligature being rewound onto the recoil mechanism into the housing as the telephone is returned to the belt. The safety device is therefore able to prevent the accidental loss or damage of a telephone should it become detached from the user's pocket or waistband without him/her being aware of it.

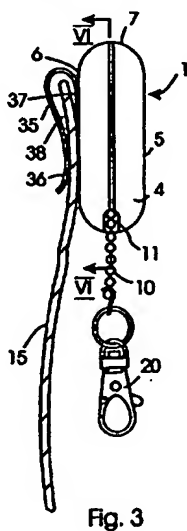


Fig. 3

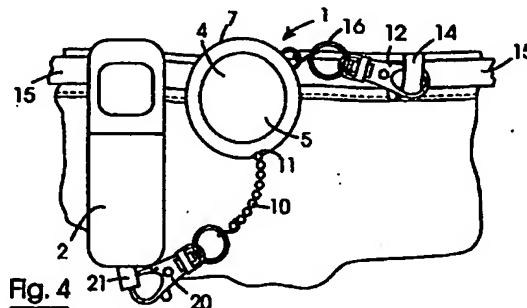


Fig. 4

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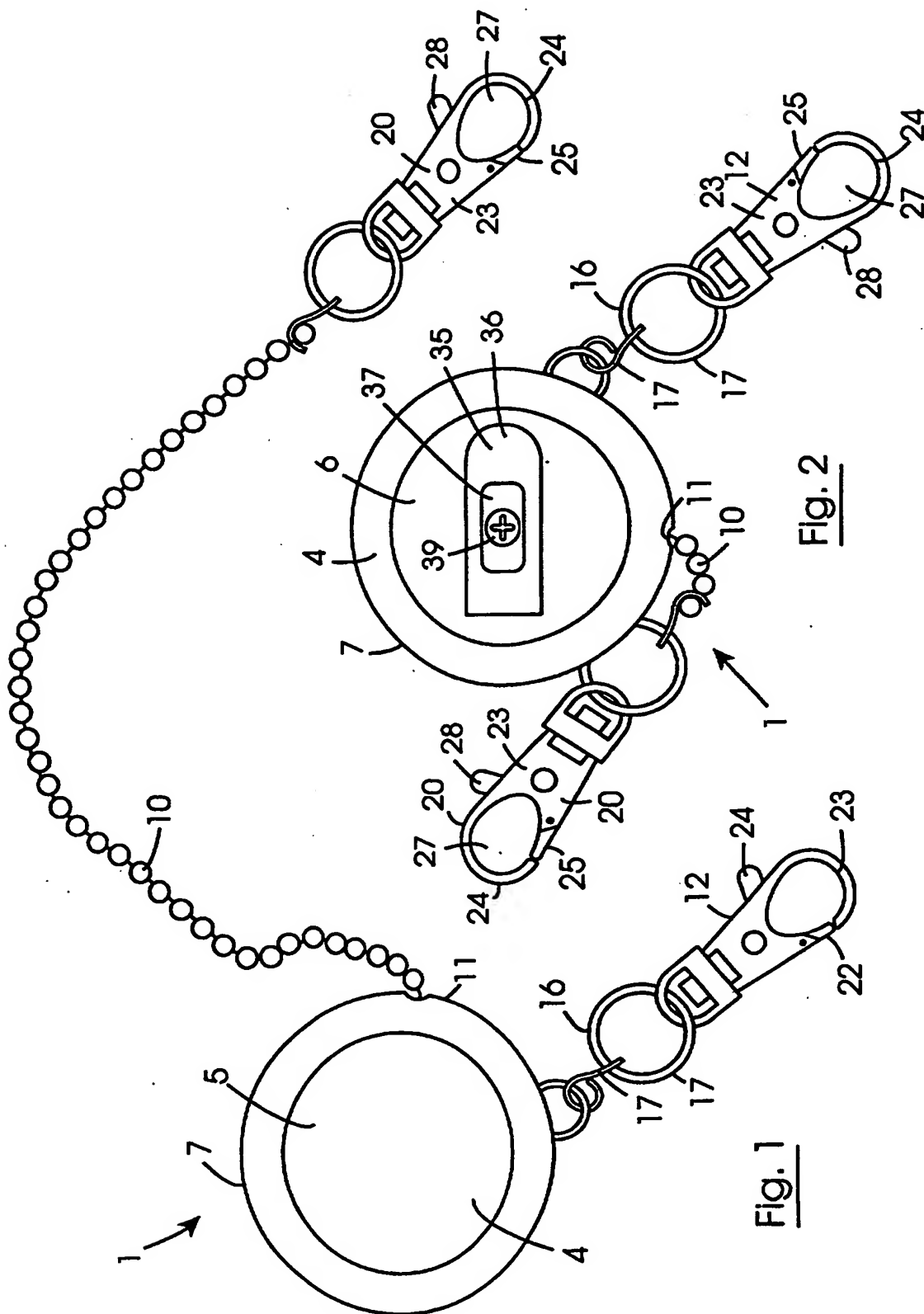
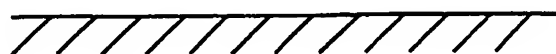
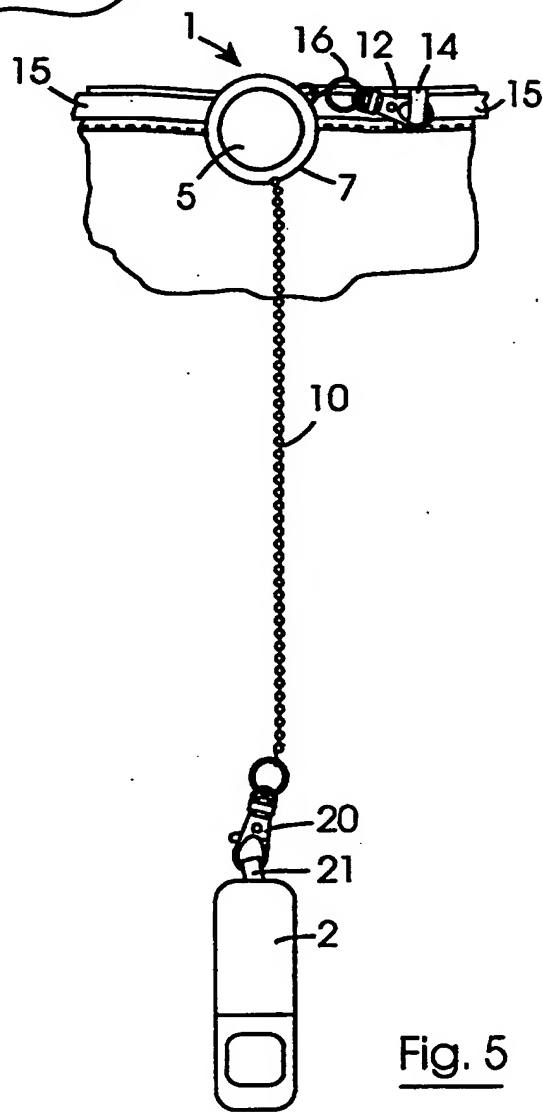
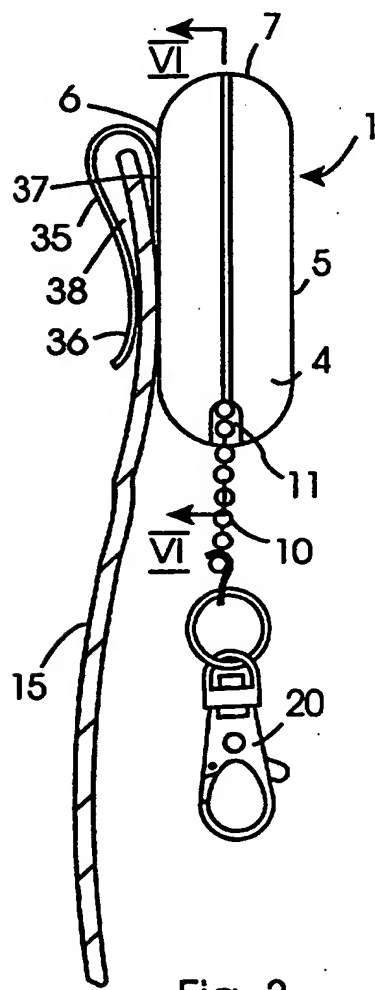
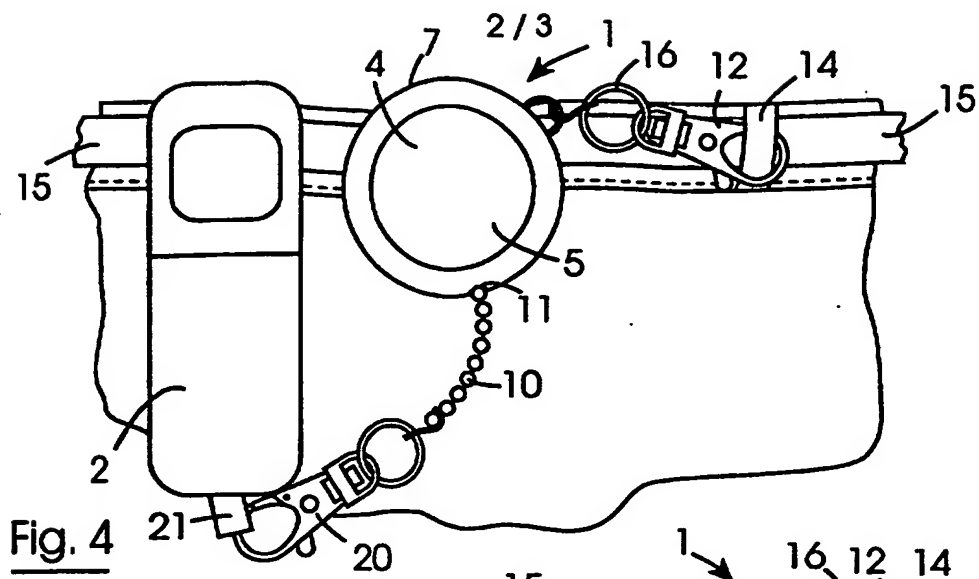


Fig. 1

Fig. 2



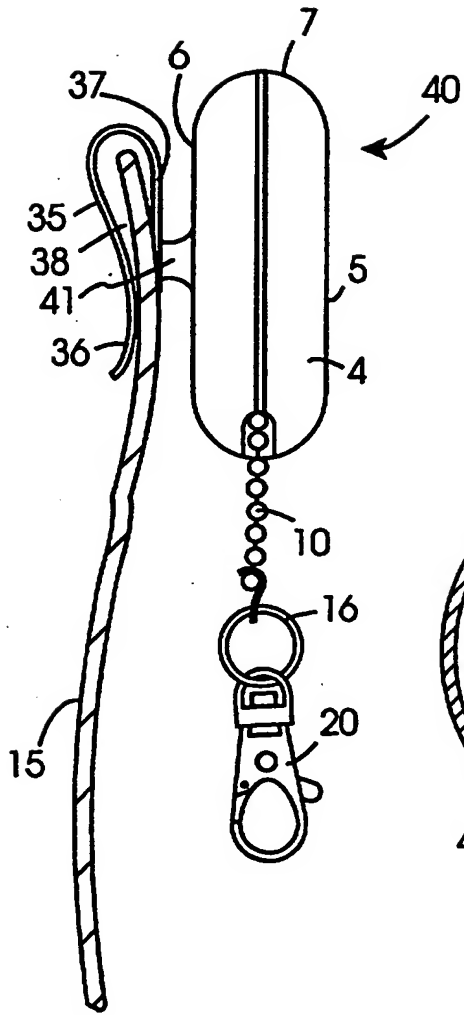


Fig. 7

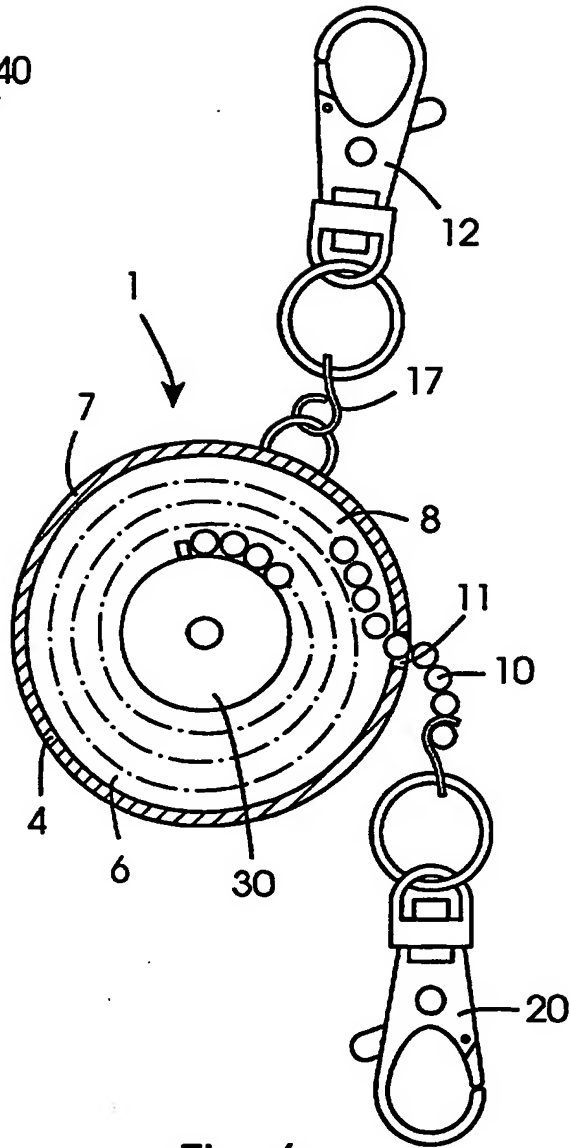


Fig. 6

"A safety device"

The present invention relates to a safety device, and in particular, to a safety device for securing a mobile phone to a subject.

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Mobile phones, typically, are provided with a belt clip, which is suitable for clipping the phone onto a belt worn around the waist of a subject, or for clipping the phone onto a waistband of trousers, skirt or the like. Additionally, where a mobile phone is carried in a carrying case, typically, a leather carrying case a similar type belt or

10 waistband clip is provided on the carrying case. While such belt clips are adequate for securing a mobile phone to a belt or waistband of a subject's clothing while the subject is in a relatively sedentary or in an ambulatory mode, in general, they are unsuitable when a subject is bending over, jumping or engaged in more active, strenuous or energetic activities. During such activities the belt clip is quite likely to

15 become disengaged from the belt or waistband of the clothing. This, thus can result in loss of or damage to a mobile phone. Needless to say, this is undesirable.

There is therefore a need for a safety device for securing a mobile phone to a subject.

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The present invention is directed towards providing such a safety device.

According to the invention there is provided a safety device for securing a mobile phone to a subject, the safety device comprising a housing defining a hollow interior

25 region, a first securing means for securing the housing to one of the mobile phone

and the subject, a primary ligature stored in the hollow interior region, one end of the primary ligature being connected to the housing through a recoil mechanism in the hollow interior region for recoiling the primary ligature into the hollow interior region, and the other end of the primary ligature extending from the hollow interior region  
5 and terminating in a second securing means for securing to the other of the mobile phone and the subject, the primary ligature being extendable from the hollow interior region against the recoiling action of the recoil mechanism for facilitating movement of the second securing means relative to the first securing means, and in turn the mobile phone relative to the subject.

10

In one embodiment of the invention the first securing means is adapted for securing to the subject.

In another embodiment of the invention the first securing means is connected to the housing by a first connecting means for facilitating relative movement between the  
15 first securing means and the housing.

Preferably, the first connecting means comprises a flexible connecting means extending from exterior of the housing to the first securing means. Advantageously,  
20 the first connecting means comprises a connecting chain.

In one embodiment of the invention the first securing means is adapted for releasably engaging the subject. Preferably, the first securing means is adapted for engaging clothing of the subject. Advantageously, the first securing means is  
25 adapted for engaging a belt accommodating loop of clothing of the subject or for

engaging a buckle of a belt worn by the subject. Ideally, the first securing means comprises a first eye clip.

In another embodiment of the invention, the second securing means is adapted for  
5 engaging a mobile phone. Preferably, the second securing means is adapted for  
releasably engaging the mobile phone. Advantageously, the second securing  
means is adapted for engaging a securing ring on a body of the mobile phone or on  
a carrying case of the mobile phone. Ideally, the second securing means comprises  
a second eye clip.

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In one embodiment of the invention a clip means is connected to the housing for  
securing the housing to a belt or waistband of clothing of the subject.

In another embodiment of the invention the clip means is adapted for releasably  
15 engaging the belt or waistband of clothing of the subject

In another embodiment of the invention the clip means resiliently engages the  
waistband or belt.

20 In one embodiment of the invention the clip means comprises at least one elongated  
engagement tongue resiliently mounted relative to a receiving means and defining  
with the receiving means a slot for accommodating the belt or waistband between  
the engagement tongue and the receiving means.

In another embodiment of the invention the receiving means is provided by the housing. Alternatively, the receiving means is provided by a co-operating receiving tongue connected to the housing.

- 5 In one embodiment of the invention the receiving tongue is connected to the housing by a second connecting means. Preferably, the second connecting means comprises a swivel connector for facilitating relative swivelling movement between the clip means and the housing.

- 10 In one embodiment of the invention the primary ligature is provided by a chain.

In another embodiment of the invention the housing is of circular disc like shape.

- 15 In a further embodiment of the invention the recoil mechanism is located centrally within the hollow interior region of the housing. Advantageously, the recoil mechanism is located in the hollow interior region of the housing substantially coaxially with the housing, and preferably, the primary ligature is wound around the recoil mechanism within the hollow interior region of the housing.

- 20 Additionally the invention provides a method for securing a mobile phone to a subject using the safety device according to the invention, the method comprises the steps of securing one of the first and second securing means to the mobile phone, and securing the other of the first and second securing means to the subject so that the mobile phone is secured to the subject by the safety device, and is moveable



relative to the subject by extending the primary ligature from the hollow interior region of the housing against the recoiling action of the recoiling mechanism.

The invention will be more clearly understood from the following description of some preferred embodiments thereof which are given by way of example only with  
5 reference to the accompanying drawings, in which:

Fig. 1 is a front elevational view of a safety device according to the invention,  
for securing a mobile phone to a subject,

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Fig. 2 is a rear elevational view of the safety device of Fig. 1 in a different  
state,

Fig. 3 is a side elevational view of the safety device of Fig. 1, in use,

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Fig. 4 is a front elevational view of the safety device of Fig. 1, in use,

Fig. 5 is a front elevational view of the safety device of Fig. 1, also in use,

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Fig. 6 is a cross-sectional front elevational view of the safety device of Fig. 1  
on the line VI – VI of Fig. 3, and

Fig. 7 is a side elevational view of a safety device according to another  
embodiment of the invention also for securing a mobile phone to a subject.

Referring to the drawings and initially to Figs. 1 to 6 thereof there is illustrated a safety device according to the invention indicated generally by the reference numeral 1 for securing a mobile phone 2 to clothing of a subject. The safety device 1 comprises a housing 4 of circular disc-like shape having circular front and rear walls 5 and 6, respectively, joined by an arcuate circular side wall 7 extending around the front and rear walls 5 and 6. The front and rear walls 5 and 6 and the circular side wall 7 together define a hollow interior region 8 within which a primary ligature, in this embodiment of the invention a primary chain 10 is stored for connecting to the mobile phone 2 as will be described below. An opening 11 in the side wall 7 accommodates the primary chain 10 from the hollow interior region 8

A first securing means, in this embodiment of the invention comprises a first eye clip 12 for releasably and securely clipping onto a belt accommodating loop 14 of a trousers or skirt of the subject, or alternatively, a buckle (not shown) of a belt 15 for securing the housing 4 to the subject. The first eye clip 12 is connected to the housing 4 by a first connecting means, namely, a connecting chain 16 comprising a pair of chain rings 17. A second securing means, in this embodiment of the invention provided by a second eye clip 20 is secured to the free end of the primary chain 10, and is adapted for releasably engaging the mobile phone 2. The second eye clip 20 is adapted for engaging a ring or loop 21 which in general, is provided on a mobile phone or on its carrying case.

The first and second eye clips 12 and 20 are similar, and each comprises a body portion 23 from which a hook shaped member 24 extends. A latch 25 which is pivotally connected within the body portion 21 co-operates with the hook shaped

member 24 for forming an eye 27 for engaging the belt accommodating loop 16 or loop 21 of the mobile phone 2. The latch 25 is pivotal inwardly into the eye 27 to an open position by a lever 28 for accommodating the loop or ring 21 into the eye 27, and is resiliently biased into a closed position co-operating with the hook shaped member 24 for forming the eye 27. The lever 28 is pivotally mounted in the body portion 23 and is operably connected to the latch 25 for pivoting the latch 25 from the closed to the open position.

A recoil mechanism 30 is secured to the housing 4 and is centrally and coaxially located in the hollow interior region 8 for recoiling the primary chain 10 into the hollow interior region 8. The primary chain 10 is connected to and wound around the recoil mechanism 30 for resiliently urging and recoiling the primary chain 10 into the hollow interior region 8.

A clip means provided by a belt clip 35 is secured to the rear wall 6 of the housing 4 for clipping the housing 4 onto the belt 15 or waistband of a garment of the subject.

The belt clip 35 comprises an engagement tongue 36 which is resiliently connected to a receiving means, namely, a receiving tongue 37 which defines with the engagement tongue 36 a belt receiving slot 38 for receiving the belt 15. The receiving tongue 37 is secured to the rear wall 6 of the housing 4 by a secondary connecting means, namely by a screw 39. The engagement tongue 36 is resiliently urged into engagement with the receiving tongue 37 for tightly gripping the belt 15 against the receiving tongue 37.

In use, the safety device 1 is initially clipped onto belt 15 or waistband of the subject by clipping the belt clip 35 onto the belt 15 or waistband. The first eye clip 12 is then clipped onto the belt loop 14 of a trousers or skirt of the subject or alternatively onto a buckle (not shown) of the belt 15 of the subject. In this way, the safety device 1 is  
5 thoroughly secured to the subject, and without opening the first eye clip 12 cannot be detached from the subject. The second eye clip 20 is secured to the mobile phone 2 by engaging the loop 21 of the mobile phone 2, and the mobile phone 2 is clipped onto the belt 15 or waistband of the trousers or skirt of the subject in conventional fashion. In this way, the mobile phone 2 is thoroughly secured to the subject, through  
10 the first eye clip 12 and the second eye clip 20.

Should it be desired to use the mobile phone 2, the mobile phone 2 is unclipped from the belt 15 or waistband of the trousers or skirt of the subject using the normal conventional phone clips, and raised to the ear of the subject. As the mobile phone 2  
15 is being raised to the ear of the subject the primary chain 10 extends outwardly from the hollow interior region 8 of the housing 4 through the opening 11. The primary chain 10 is of sufficient length to allow the mobile phone 2 while still attached to the primary chain 10 to be raised to the ear of the subject for normal conversation. On completing a call, the mobile phone 2 is returned to the belt 15 or waistband of the  
20 subject, and while being returned the recoil mechanism 30 resiliently recoils the primary chain 10 into the hollow interior region 8 of the housing 4.

Referring now to Fig. 7 there is illustrated a safety device according to another embodiment of the invention which is indicated generally by the reference numeral  
25 40. The safety device 40 is substantially similar to the safety device 1 and similar

components are identified by the same reference numerals. The only difference between the safety device 40 and the safety device 1 is that the second connecting means for connecting the belt clip 35 to the rear wall 6 of the housing 4, comprises a swivel connector, provided by a resilient mounting 41 which facilitates relative swivelling movement between the housing 4 and the belt clip 35 when the belt clip 35 is secured to a belt 15. The resilient mounting 41 may be of any suitable type, and typically, would be provided by a rubber or synthetic rubber mounting which would be secured to the rear wall 6 of the housing 4 and to the receiving tongue 37 of the belt clip 35. Otherwise, the safety device 40 is similar to the safety device 1 as is its use and operation.

The advantages of the invention are many. The primary advantage of the invention is that it secures a mobile phone to a subject so that even if the conventional belt clip of a mobile phone becomes inadvertently detached from a belt or the like of the subject, the mobile phone is still secured to the subject by the safety device.

Another advantage of the invention is that the primary chain never hangs loosely downwardly from the housing or the mobile phone when both are clipped onto the belt or the like of the subject. This is due to the fact that the primary chain is resiliently urged into the hollow interior region by the recoil mechanism. Additionally, the phone can readily easily be raised to the ear of the subject since the primary chain can be drawn outwardly of the hollow interior region against the inward resilient urging force being applied by the recoil mechanism 30. By virtue of the fact that the recoil mechanism resiliently urges the primary chain into the hollow interior region, the primary chain is withdrawn back into the hollow interior region as the mobile phone is being lowered, thereby avoiding the possibility of the primary chain

hanging downwardly from the waistband of the subject, or alternatively requiring manual winding of the primary chain into the hollow interior region.

While the first and second securing means have been described as being provided  
5 by first and second eye clips, other suitable first and second securing means may be provided.

While the clip means has been described as being provided by a belt clip, any other suitable clip means may be provided, for example, a safety pin clip or the like.

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While the primary ligature has been described as comprising of primary chain, any other suitable primary ligature may be provided, for example, the primary ligature may be provided by a string, a steel cord or the like.

**Claims**

1. A safety device for securing a mobile phone to a subject, the safety device comprising a housing defining a hollow interior region, a first securing means for securing the housing to one of the mobile phone and the subject, a primary ligature  
5 stored in the hollow interior region, one end of the primary ligature being connected to the housing through a recoil mechanism in the hollow interior region for recoiling the primary ligature into the hollow interior region, and the other end of the primary ligature extending from the hollow interior region and terminating in a second securing means for securing to the other of the mobile phone and the subject, the  
10 primary ligature being extendable from the hollow interior region against the recoiling action of the recoil mechanism for facilitating movement of the second securing means relative to the first securing means, and in turn the mobile phone relative to the subject.
- 15 2. A safety device as claimed in Claim 1 in which the first securing means is adapted for securing to the subject.
3. A safety device as claimed in Claim 1 or 2 in which the first securing means is connected to the housing by a first connecting means for facilitating relative  
20 movement between the first securing means and the housing.
4. A safety device as claimed in Claim 3 in which the first connecting means comprises a flexible connecting means extending from exterior of the housing to the first securing means.

5. A safety device as claimed in Claim 3 or 4 in which the first connecting means comprises a connecting chain.
6. A safety device as claimed in any preceding claim in which the first securing means is adapted for releasably engaging the subject.
7. A safety device as claimed in any preceding claim in which the first securing means is adapted for engaging clothing of the subject.
8. A safety device as claimed in any preceding claim in which the first securing means is adapted for engaging a belt accommodating loop of clothing of the subject or for engaging a buckle of a belt worn by the subject.
9. A safety device as claimed in any preceding claim in which the first securing means comprises a first eye clip.
10. A safety device as claimed in any preceding claim in which the second securing means is adapted for engaging a mobile phone.
11. A safety device as claimed in any preceding claim in which the second securing means is adapted for releasably engaging the mobile phone.
12. A safety device as claimed in any preceding claim in which the second securing means is adapted for engaging a securing ring on a body of the mobile phone or on a carrying case of the mobile phone.



13. A safety device as claimed in any preceding claim in which the second securing means comprises a second eye clip.

5 14. A safety device as claimed in any preceding claim in which a clip means is connected to the housing for securing the housing to a belt or waistband of clothing of the subject.

15. A safety device as claimed in Claim 14 in which the clip means is adapted for  
10 releasably engaging the belt or waistband of clothing of the subject.

16. A safety device as claimed in Claims 14 or 15 in which the clip means resiliently engages the waistband or belt.

15 17. A safety device as claimed in any of Claims 14 to 16 in which the clip means comprises at least one elongated engagement tongue resiliently mounted relative to a receiving means and defining with the receiving means a slot for accommodating the belt or waistband between the engagement tongue and the receiving means.

18. A safety device as claimed in Claim 17 in which the receiving means is  
20 provided by the housing.

19. A safety device as claimed in Claim 17 in which the receiving means is provided by a co-operating receiving tongue connected to the housing.

25 20. A safety device as claimed in Claim 19 in which the receiving tongue

is connected to the housing by a second connecting means.

21. A safety device as claimed in Claim 20 in which the second connecting means comprises a swivel connector for facilitating relative swivelling movement  
5 between the clip means and the housing.

22. A safety device as claimed in any preceding claim in which the primary ligature is provided by a chain.

- 10 23. A safety device as claimed in any preceding claim in which the housing is of circular disc like shape.

24. A safety device as claimed in any preceding claim in which the recoil mechanism is located centrally within the hollow interior region of the housing.

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25. A safety device as claimed in any preceding claim in which the recoil mechanism is located in the hollow interior region of the housing substantially coaxially with the housing.

- 20 26. A safety device as claimed in any preceding claim in which the primary ligature is wound around the recoil mechanism within the hollow interior region of the housing.

27. A safety device for securing a mobile phone to a subject, the safety device

being substantially as described herein with reference to and as illustrated in Figs. 1 to 6 of the accompanying drawings.

28. A safety device for securing a mobile phone to a subject, the safety device  
5 being substantially as described herein with reference to and as illustrated in Fig. 7 of the accompanying drawings.

29. A method for securing a mobile phone to a subject using the safety device as claimed in any preceding claim, the method comprising the steps of securing one of  
10 the first and second securing means to the mobile phone, and securing the other of the first and second securing means to the subject so that the mobile phone is secured to the subject by the safety device, and is moveable relative to the subject by extending the primary ligature from the hollow interior region of the housing against the recoiling action of the recoil mechanism.

15

30. A method for securing a mobile phone to a subject using the safety device as claimed in any of Claims 1 to 28, the method being substantially as described herein with reference to and as illustrated in the accompanying drawings.

20



Application No: GB 0104405.6  
Claims searched: 1-30

Examiner: Mike Leaning  
Date of search: 22 August 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): A3H (H32); A4G; B8M (MB7)

Int Cl (Ed.7): A44B (15/00); A45C (13/18, 13/20); A45F (5/00)

Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	WO 99/67936 A1 (WINTZELL) Note collecting member 4 for retractable cord 2 in figure 2 and also page 3 lines 15-26.	1-3,6-11, 26&29
X	WO 97/42852 A1 (OHLSON) Whole document is relevant.	1-16, 23-26, &29
X	US 5938137 (POULSON) Whole document is relevant.	1-4,6-8, 10-17,19, 23-26&29
X	US 5864925 (MCGEE) Whole document is relevant.	1,2,6-8, 10,12,14-18,23-26&29
X	US 4714184 (YOUNG et al.) See especially figures 1-3.	1,2,6-8, 10,11,22-26&29
X	AU 12402/97 A (LINDSTEDT) Whole document is relevant. Note the first securing means provided by bracket 16 and ring 12 on telephone 11	1,2,7,8, 10-17, 24-26, &29

X Document indicating lack of novelty or inventive step	A Document indicating technological background and/or state of the art.
Y Document indicating lack of inventive step if combined with one or more other documents of same category.	P Document published on or after the declared priority date but before the filing date of this invention.
& Member of the same patent family	E Patent document published on or after, but with priority date earlier than, the filing date of this application.